Zwöck

CYRUS

CYRUS 1

A British critic wrote ". . . the stunned look on the face of people who first heard the Cyrus One amplifier . . .", a leading Dutch reviewer went on to say: Cyrus One is probably the best amplifier at any price; a most respected American reviewer added: the more subtle qualities of Cyrus One can only be matched by the finest of American tube amplifiers, and the French critics simply awarded Cyrus with 'Decibel D'Honneur'. Since then we have continued to read extraordinary independent test-reports from critics all over the world on the genius of a product. We have learned of astonished music critics replacing their costly 'super amps' with the little Cyrus One. One can therefore only conclude that in its short history, since its introduction, the Cyrus One has become both a Reference and a living legend.

The Cyrus One is based on a revolutionary circuit design philosophy, details of which are beyond the scope of this brochure and in any case well guarded secrets.

The design is then implemented with careful attention to circuit topology in order to minimise the number of components in the signal path and reduce their harmful effects. This 'straight-line' design is then manufactured to the very highest standards using components and materials beyond the reach of most competition. The power transistors, for example, are military grade, ultra-fast and very linear devices especially manufactured for Cyrus Electronics. The driver transistors are equally products of a British military semiconductor manufacturer. World class German produced passive components have been selected including extravagant polypropylene capacitors, polystyrene capacitors, and metal film resistors. The casing is Precision Pressure Diecast in non-ferrous metal alloy and the diecast aluminium chassis with integral heatsink increases the amplifier's ability to dissipate heat efficiently.

All spurious and harmful stages, such as tone-controls and filters, headphone and loudspeaker switching have been eliminated to make the amplifier a 'straight-line', no compromise, state-of-the-art design. The quality control standards are amongst the highest in the industry where every amplifier is tested along nearly 100 parameters on the most sophisticated Hewlett-Packard CAD-CAM systems available. The result is an extraordinary achievement called the Cyrus One integrated amplifier, elegant in appearance, without gimmicks, and capable of producing a breathtaking and spectacular sound stage when used with quality ancillary equipment.

CYRUS TWO

The Cyrus Two is an even more sophisticated amplifier with a similar philosophy to that of the Cyrus One. The major differences between the two amplifiers are in the area of greater power output and even more importantly, superior current delivery capabilities. Furthermore, Cyrus Two incorporates one truly exceptional moving coil stage with emphasis on noise and hysteresis factors. Indeed, the MC stage is designed to work with esoteric cartridges often costing many times the price of Cyrus Two. Another unique feature of Cyrus Two is its ability to accept the PSX optional outboard power supply (not available for use with Cyrus One) and, when configured with the PSX, Cyrus Two is capable of competing directly with the finest and most esoteric American 'super-amps'. Independent test reports have frequently suggested that the only problem with Cyrus Two is its modest price tag, which may prejudice the most discerning of audiophiles who tend to look only at very expensive equipment. We suggest that you audition the Cyrus Two, possibly combined with the PSX, against the world's most esoteric equipment before you make your final decision.

CYRUS PSX

Given that the circuit philosophy is capable of reproducing magic and that really is what music is all about, and given that as we have already stated, Cyrus Two uses state-of-the-art components and manufacturing techniques throughout, there is only one other area of potential improvement – and that is in enhanced power supply capabilities.

Whereas the Cyrus Two has a superb internal power supply of its own, capable of unbelievable current delivery of 60 amps peak-to-peak, nevertheless the addition of the PSX can only improve things further. The PSX is manufactured in a similar case to the Cyrus Two, and plugs into the back of the Cyrus Two via an umbilical cord terminated with an XLR connector. The PSX transformer has been the subject of two years research and development and is the ultimate in toroidal transformer technology. The power supply reservoir capacitance is substantial and again the finest available components have been used. We are confident that the discerning music lover will not be able to better the performance of the Cyrus Two, using optional PSX outboard power supply, at any price.

CYRUS PCMII

Pulse code modulation is the 21st century technology for the storage and reproduction of music. Optical laser systems are an equally sophisticated partner for such a technology. The combination has produced Compact Disc. CD's staggering dynamic range, channel separation, low distortion, exact speed stability, zero disc wear, random access, programmability etc; put this medium in the forefront of audio technology.

As with all new technologies the early implementations proved problematic, and the fact that the industry was dominated by the mass-market manufacturers, with minimal commitment to music, delayed acceptance of the medium by the discerning music lover. However, Mission's first CD player provided the stimulus for many to take the medium seriously and made the DAD7000 an instant international success.

This approach, followed by the PCM 7000, has now culminated in the Cyrus PCMII with PSX power supply; the company's definitive statement in Compact Disc technology. The unique combination of design features, seldom if ever found in competing equipment, underlines the sheer technical sophistication of the new Cyrus CD player. However, no amount of technical explanation can fully convey the breathtaking realism with which the PCMII reproduces the emotional dynamics of music.

To reproduce accurately it is essential that the acoustic signal produced by the loudspeakers is in phase with the original musical signal. This is referred to as the absolute phase. Unfortunately, this is not consistent between discs. The facility to correct this, which results in an incoherent performance, is provided on the PCMII thus providing the highest quality performance at all times.

The digital to analogue converter (DAC) is the most significant component in the compact disc replay system. Certain design flaws in this unit can cause serious degradation of the sound quality. Pre-selected DACs are used in the PCMII to ensure more accurate portrayal of low level information, essential to the coherent recreation of the soundstage.

Power supply design philosophy and implementation is probably the single most important section of any analogue audio device. Mission's extensive expertise and know how in this field has been called on in the Cyrus PCMII. Four separate highly regulated DC supplies have been utilised to feed various sections of the unit. The entire analogue circuitry is powered by the PSX, giving a highly stable external power source, while the already ample internal supply is then dedicated to the digital processing section, laserdrive/servo system and finally the display, which may be switched off independently. Optimised grounding techniques and appropriate supply decoupling ensures minimal interference and distortion.

The full function, fully interactive, Fluorescent Tube Display, optimally slanted main-function keys, together with the elegant front panel design make the PCM a joy to use. The remote control gives the added pleasure of having a unique high quality electronic volume control.

DESIGN PHILOSOPHY

The design of a good amplifier remains more obscure and more complex than the design of any other component in the high fidelity chain. In recent years the requirements for the operation of a good amplifier have been the subject of extensive research by academics and manufacturers alike, resulting in a new understanding of some of the more important parameters. The problem is somewhat compounded by the substantial improvements made to front-end inputs such as advanced 'turntable-arm-cartridge' combinations, digitally synthesised FM tuners and, of course, the advent of quality compact disc players such as the Cyrus PCM1. Additionally, modern loudspeakers have become far more complex in terms of load factor than their predecessors making the job of the amplifier increasingly more difficult. Hardly any amplifier designed in the 1970s is capable of driving such sophisticated loudspeakers as the Mission Argonauts. Indeed, you will find that the small Cyrus One drives complex speaker loads better than many amplifiers with ten times the power output and sometimes costing ten times as much!

The secret lies in appreciation of fundamental design parameters, as well as intuitive, somewhat insolational application of 'black art'.

You see, there are serious differences between live music and hi-fi. At first people thought these could be dealt with by improving 20 or 30 simple specifications, but as these improved many listeners became more aware of the shortcomings and less satisfied with hi-fi. Indeed, improvements made to certain specifications have ironically turned out to be detrimental to the ability of the amplifier to reproduce music. A prime example of this is the power output specification. For the last 20 years Japanese companies and other commercial designers have been obsessed with giving you more 'Watts' for less money — and always at the expense of the current capability of the amplifier! That is to say, for any given power supply you have a 'see-saw' relationship between power output and current drive. For example: we could, at no extra cost to you or ourselves, have designed the Cyrus One with power output in excess of 100 Watts per channel, and of course at the expense of the current capability of the amplifier. In fact, this is exactly how commercial manufacturers satisfy the irrelevant and superficial specifications drawn up by their marketing departments – who have little or no interest in the sonic excellence of their products. Amplifiers with poor current delivery are simply not capable of driving the modern loudspeaker, and unfortunately, the problem doesn't just stop there.

Whereas years ago, using poor front-end inputs and highly distorted loudspeakers, people could not hear the subtle and, at the same time, important differences between equipment.

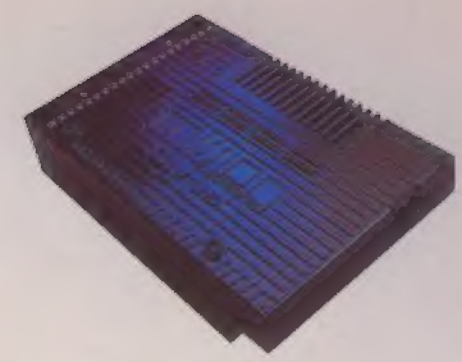
Today such differences are being noticed by a great many. Whereas years ago we were obsessed with such superficial problems as distortion, coloration and power output, today we have the sophistication to research into musical notes themselves. The coherent reproduction of music is a function of such subtle and ethereal qualities that many listeners find hi-fi gives a different, somewhat disembodied interpretation of the original live performance.

For example, music may sound detailed and 'open' but nevertheless sterile and lacking in feeling. At the first encounter with such ideas the less knowledgeable reader may find the phenomena non-scientific and even absurd. However, through careful research carried out by the designers at Cyrus Electronics we can demonstrate both scientifically and musically the validity of these phenomena. For instance, the above mentioned problem of amplifier 'sterility' is associated with, among other causes, amplifier hysteresis due to poor circuit design, incompetent topology, or the use of low-grade components. Take a musical note with a given decay characteristic. One high fidelity system would shorten the decay, cutting the continuity of the note, whilst another would over decay to such a degree that it would cause noticeable response delay to the leading edge of the next note. The net effect of either aberration would be music which although not muddled, coloured and distorted, nevertheless may sound unconvincing or irrelevant and disembodied. You see, whereas in the 1970s we placed great emphasis on detail and information retrieval, today we have moved on beyond such simplistic concepts and are investigating the true art of the reproduction of music.

If we review another area of subjective performance our exploration will become more lucid. Take two amplifiers, one with uncontrolled, overblown, rather boomy bass and the second with over-damped, rather recessed bass. The subjective difference between these two amplifiers is that the first sounds rather slow and sluggish whilst the second initially sounds fast and impressive. However, both of them, in the long run, will sound quite boring and non-musical. The subjective reason here is simply that neither amplifier is capable of reproducing the musical time correctly. The first slows down the subjective beat and tempo in the music resulting in a tired and sluggish performance, whilst the second hastens the subjective musical time to such a degree that the reproduction loses elegance and majesty.

The important issue here is that music itself is abstract, intangible and immeasurable, and the high fidelity chain extremely complex. The fundamentals of processing music signals through such a cumbersome series of components, materials, interfaces, conversion of energies etc, are not clearly understood. Laboratory designs, mathematical models and conventional measurements appear to be totally inadequate. To design on subjective grounds alone would also be dangerous. Therefore what is needed is a design that satisfies both criteria, and more importantly introduces the musical dimension.

The genius of Cyrus designs lies in their ability to transcend the classical, pedantian ideas of dealing in simplistic specifications, meet the stringent requirements of the musical community, and incorporate music's spiritual and emotional dimension. In a tired world dominated by commercialism, consumerism, designed obsolescence and so much mediocrity, your Cyrus amplifier will touch your mind and bring you breathtaking musical experience for many years to come.



SPECIFICATIONS

CYRUS I INTEGRATED AMPLIFIER

Input Sensitivity (for 1W/8Ω)	Phono MC	0.1mV
	Phono MM	1.4mV
	Line	140mV
Input Overload	Phono MC	20dB
	Phono MM	5dB
	Line	20dB
Maximum Output Level	Tape out	1.1V rms
	Power Amp out	1.1V rms
Input Impedance	Phono MC	100 Ohms / 0.2nF
	Phono MM	47 kOhms / 100pF
	Line	14 kOhms
Output Impedance	Tape out	150 Ohms / 1.2kΩ
	Power Amp	0.08 Ohms
Frequency Response	Phono RIAA	20Hz - 20kHz ±0.2dB
	Line	1Hz - 50kHz -3dB
Distortion (THD)	Phono MC	0.005%
	Phono MM	0.03%
Distortion (SMPTE IMD)	Phono MC	0.005%
	Phono MM	0.03%
Signal to Noise Ratio (A-Weighted 1W output)	Phono MC	75dB
	Phono MM	84dB
	Line	96dB

Load Specification

Continuous Average Power (Per Channel)	8 Ohms	50W
	4 Ohms	80W
Damping Factor (20Hz - 20kHz)		100
Dynamic Headroom		1.4dB
Slew Rate		10
Input Filter to prevent Distortion (THD)		
1kHz full power	8 Ohms	0.003%
	4 Ohms	0.004%
20kHz full power	8 Ohms	0.015%
	4 Ohms	0.022%

CYRUS II INTEGRATED AMPLIFIER

Input Sensitivity (for 1W/8Ω)	Phono MC	0.07mV
	Phono MM	0.35mV
	Line	90mV
Input Overload	Phono MC	21dB
	Phono MM	21dB
	Line	14dBu
Maximum Output Level	Tape out	1.1V rms
	Power Amp out	1.1V rms
Input Impedance	Phono MC	100 Ohms / 0.2nF
	Phono MM	47 kOhms / 100pF
	Line	14 kOhms
Output Impedance	Tape out	150 Ohms / 1.2kΩ
	Power Amp	0.08 Ohms
Frequency Response	Phono RIAA	20Hz - 20kHz ±0.2dB
	Phono MM	±0.2dB
	Line	1Hz - 50kHz -3dB
Distortion (THD)	Phono MC	0.005%
	Phono MM	0.03%
Distortion (SMPTE IMD)	Phono MC	0.005%
	Phono MM	0.03%
Signal to Noise Ratio (A-Weighted 1W output)	Phono MC	75dB
	Phono MM	84dB
	Line	96dB

Load Specification

Continuous Average Power (Per Channel)	8 Ohms	50W
	PSX added	70W
	4 Ohms	80W
	PSX added	125W
Damping Factor (20Hz - 20kHz)		100
Dynamic Headroom		1.4dB
Slew Rate		10
Input Filter to prevent Distortion (THD)		
1kHz full power	8 Ohms	0.003%
	4 Ohms	0.004%
20kHz full power	8 Ohms	0.015%
	4 Ohms	0.022%

CYRUS PCMII

Frequency Response (20Hz - 20kHz)	20Hz - 20kHz ±0.2dB
Signal to Noise ratio (20Hz - 20kHz)	94dB
Output level (+/- 2 dB)	2 V rms
Total Harmonic Distortion: At 0 dB	0.004%
At -10 dB	0.004%
Intermodulation distortion: At 0 dB, 19kHz/20kHz	0.002%
At -10 dB, 19kHz/20kHz	0.002%
Channel Balance	±0.2 dB
Tracks locked into	<2 sec. max.
Error correction capability	9Dbit
Remote control	14 functions
Dynamic volume control	+4 to -24 dB (1 dB step)
Dimensions (W x D x H) mm	430 x 300 x 83
Weight (Net)	6.5 Kg (approx)

CYRUS PSX

Output Voltage	40V - 0 - 40V
Output Impedance	1 Ohm
Ripple	750mV peak to peak at 140 watts into 8 Ohms
Inputs	500VA
Transformer Regulation	9% at 500 VA
Load 1% Capability	Typically 0.1 Amps
Output to PSX(R)	
Regulated Voltage	-16V 0 +16V
Current Capability	1.5A Peak
Net Weight	9 Kgs (approx)
Dimensions (W x H x D)	215mm x 83mm x 340mm

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SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE.

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